

Evolution of the spiny lobster *Palinurus elephas* in a temperate protected area over two decades

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The European spiny lobster *Palinurus elephas* is the most sought after spiny lobster species in the NE Atlantic and Mediterranean and its populations are depleted throughout its range. As a slow growing species with low fecundity and a high unit value that makes fishing profitable at low densities, it is under consideration by the IUCN to be listed as endangered.

P. elephas has been unfished in the Columbretes Islands Marine Reserve (the MPA) (Western Mediterranean) since its creation in 1990. The MPA harbours 55 km² of coraligenous and maërl grounds, largely closed to all extractive activities. A monitoring study started 7 years after MPA creation with the aim of assessing the evolution of *P. elephas* in the MPA relative to reference areas open to fishing. Continued monitoring up to year 20 of protection has provided a unique opportunity to assess the evolution of the unfished population for a period close to the life span of the species. During 14 years we have documented the continued recovery of biomass and demography while abundance has remained stable for the last decade, which we partially attribute to dispersion imbalance due to *spillover*.